

## PATENT SPECIFICATION



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## PROVISIONAL SPECIFICATION

## Improvements in and relating to Colour Lighting Equipment

We, HOLOPHANE LIMITED, a company organised and existing under the laws of Great Britain and Northern Ireland, and ROLO GILLESPIE WILLIAMS, a British subject, both of Holophane House, Elverton Street, Vincent Square, London, S.W.1, do hereby declare the nature of this invention to be as follows:—

This invention relates to colour lighting equipment comprising troughing divided into short compartments each housing a source of coloured light and the colours of the compartments varying along the troughing. In one common arrangement three colours, red, green and blue are used in repeating groups and in another these three colours and white are used. The coloured light may be provided by coloured lamps but more usually, ordinary electric lamps are used and the colours obtained by the use of filters covering the open faces of the compartments. Such troughing is used for example in cornice lighting and for stage lighting as a footlight or suspended batten light. By lighting the lamps in suitable order and strength any desired pure or mixed coloured lighting can be obtained.

As at present constructed the troughing is divided into compartments by transverse partitions at right angles to the axis of the troughing. When a single colour is in use with three or four colour troughing only every third or fourth lamp is illuminated and when the troughing is fairly close to the area to be illuminated an irregular effect is obtained owing to the considerable spacing of the lamps in use. In the same circumstances with two colours in use together, owing to the spacing, satisfactory blending is not obtained. The shorter the compart-

ments the less noticeable are these effects, but constructional conditions limit the possible closeness and in addition it may be desired to limit the total illuminating power per unit length of troughing.

The object of the present invention is to decrease the irregular effect for any given spacing of lamps and to this end the compartments are formed by partitions which viewed from the front of the troughing are inclined to the axis of the troughing. Alternatively or additionally the partitions may be curved, for instance S shaped. Thus the front view of each compartment becomes non-rectangular instead of rectangular. For a given lamp spacing the distance between the partitions bounding it becomes less but the total extent of the compartment along the troughing is increased. Thus with one colour in use the distance along the troughing between the nearest points of successive illuminated compartments is less, while if two adjacent colours are in use there is actual longitudinal overlapping of illuminating compartments.

Where the troughing is made in lengths for assembly end to end, the ends may be left of the same form as the partitions. Those ends constituting the actual ends of a complete length may however be finished off at right angles.

By way of example with troughing some eight inches wide with lamps at six inch spacing, the partitions may be at about 45° to the axis of the troughing.

Dated this 2nd day of November, 1936.

SEFTON-JONES, O'DELL &  
STEPHENS,

Chartered Patent Agents,  
285, High Holborn, London, W.C.1.  
Agents for the Applicants.

## COMPLETE SPECIFICATION

## Improvements in and relating to Colour Lighting Equipment

We, HOLOPHANE LIMITED, a company organised and existing under the laws of Great Britain and Northern Ireland, and ROLO GILLESPIE WILLIAMS, a British subject, both of Holophane House, Elverton Street, Vincent Square, London,

[Price 1/-]

S.W.1, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to colour light-

ing equipment comprising troughing divided into short compartments each constituting a source of coloured light and the colours of the compartments varying along the troughing. In one common arrangement three colours, red, green and blue are used in repeating groups and in another these three colours and white are used. The coloured light may be provided by coloured lamps but more usually, ordinary electric lamps are used and the colours obtained by the use of filters covering the open faces of the compartments. Such troughing is used for example in cornice lighting and for stage lighting as a footlight or suspended batten light. By lighting the lamps in suitable order and strength any desired pure or mixed coloured lighting can be obtained.

As at present constructed the troughing is divided into compartments by transverse partitions at right angles to the axis of the troughing. When a single colour is in use with three or four colour troughing only every third or fourth lamp is illuminated and when the troughing is fairly close to the area to be illuminated an irregular effect is obtained owing to the considerable spacing of the lamps in use. In the same circumstances with two colours in use together, owing to the spacing, satisfactory blending is not obtained. The shorter the compartments the less noticeable are these effects, but constructional conditions limit the possible closeness and in addition it may be desired to limit the total illuminating power per unit length of troughing.

The object of the present invention is to decrease the irregular effect for any given spacing of lamps and to this end the compartments are formed by partitions shaped or placed so that the total extent of the face of each compartment along the troughing is substantially greater than the longitudinal pitch of the compartments. This result will be obtained by partitions having any form of edge in the face of the trough departing substantially from a straight line at right angles to the sides of the troughing. A particularly simple construction has straight partitions set at a substantial inclination to a plane perpendicular to the sides of the troughing,  $45^\circ$  being a very suitable amount of inclination to such plane. Alternatively or additionally the partitions may be curved, for instance S shaped. Thus the front view of each compartment becomes non-rectangular instead of rectangular. For a given lamp spacing the distance between the partitions bounding it becomes less

but the total extent of the compartment along the troughing is increased. Thus with one colour in use, the distance along the troughing between the nearest points of successive illuminated compartments is less, while if two adjacent colours are in use there is actual longitudinal overlapping of illuminated compartments.

Where the troughing is made in lengths for assembly end to end, the ends may be left of the same form as the partitions. Those ends constituting the actual ends of a complete length may however be finished off at right angles.

An example of the invention is diagrammatically illustrated in front view in the accompanying drawing which represents part of a three colour unit covering two sets of colours, red, green and blue respectively marked R.G.B. The drawing shows suitable proportions; for instance the pitch and therefore the length of each compartment 1 measured along the side 2 of the troughing may be eight inches and the width of the troughing measured at right angles to the sides may be ten inches, while the angle of the partitions is  $45^\circ$ . With such dimensions the minimum longitudinal distance from one compartment of one colour to the next of the same colour is but six inches whereas with rectangular compartments of the same width and pitch the minimum distance would be sixteen inches.

No structural details of the troughing are shown because these may be carried out in any desired manner as will be well understood by those skilled in the art.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Colour lighting equipment comprising troughing divided into short compartments each constituting a source of coloured light and the colours of the compartments varying along the troughing in which the compartments are formed by partitions shaped or placed so that the total extent of the face of each compartment along the troughing is substantially greater than the longitudinal pitch of the compartments.

2. A construction according to claim 1 in which the compartments are formed by straight partitions set at a substantial inclination to a plane perpendicular to the sides of the troughing.

3. Colour lighting troughing having compartments constructed substantially as described and shown in the accompanying drawing.

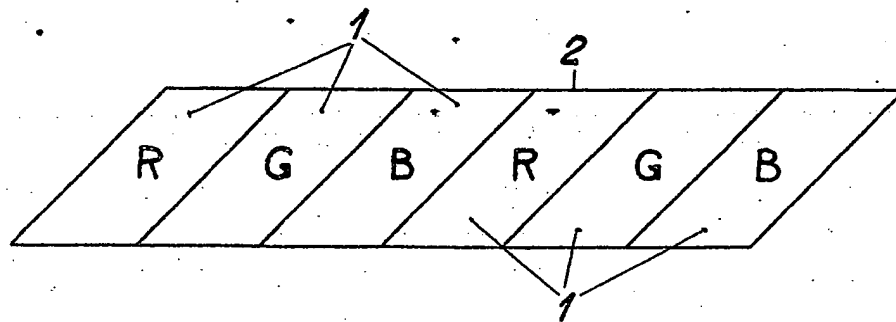
SEFTON-JONES, O'DELL &  
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285, High Holborn, London, W.C.1,  
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Leamington Spa: Printed for His Majesty's Stationery Office, by the Courier Press.—1938.

[This Drawing is a reproduction of the Original on a reduced scale.]



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